1. An inductor device comprising a loop of conductive loaded, resin-based material comprising conductive materials in a base resin host.

2.The device according to Claim 1 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

3.The device according to Claim 1 wherein said conductive materials comprise metal powder.

4.The device according to Claim 3 wherein said metal powder is nickel, copper, or silver.

5.The device according to Claim 3 wherein said metal powder is a non-conductive material with a metal plating.

6.The device according to Claim 5 wherein said metal plating is nickel, copper, silver, or alloys thereof.

7.The device according to Claim 3 wherein said metal powder comprises a diameter of between about 3 μm and about 12 μm.

8. The device according to Claim 1 wherein said conductive

materials comprise non-metal powder.

9. The device according to Claim 8 wherein said non-metal powder is carbon, graphite, or an amine-based material.

10.The device according to Claim 1 wherein said conductive materials comprise a combination of metal powder and non-metal powder.

11.The device according to Claim 1 wherein said conductive materials comprise micron conductive fiber.

12.The device according to Claim 11 wherein said micron conductive fiber is nickel plated carbon fiber, stainless steel fiber, copper fiber, silver fiber or combinations thereof.

13.The device according to Claim 11 wherein said micron conductive fiber has a diameter of between about 3 μm and about 12 μm and a length of between about 2 mm and about 14 mm.

14.The device according to Claim 1 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

15.The device according to Claim 1 further comprising an electrically insulating layer surrounding said loop.

16. The device according to Claim 15 wherein said electrically insulating layer is a resin-based material.

17. The device according to Claim 15 wherein said loop and said electrically insulating layer are flexible.

18.The device according to Claim 1 wherein said loop further comprises a core structure located inside said loop wherein said core structure alters the inductance of said loop.

19.The device according to Claim 18 wherein said core structure is a vehicle.

20. The device according to Claim 1 wherein said core structure comprises conductive loaded resin-based material.

21.The device according to Claim 20 wherein said conductive loaded resin-based material comprises an iron-based conductive load.

22. The device according to Claim 1 wherein said core structure comprises a metal.

23.The device according to Claim 1 wherein said loop comprises multiple turns of said conductive loaded resin-based material.

24.The device according to Claim 1 further comprising:

a second loop of said conductive loaded resin-based material; and

a core structure located inside said loop and inside said second loop wherein said core structure inductively couples said loops.

25.The device according to Claim 24 wherein said loop and said second loop each comprises multiple turns of said conductive loaded resin-based material.

26.The device according to Claim 1 wherein said loop is used to generate a magnetic field.

27.The device according to Claim 1 wherein said loop is used to detect a magnetic field.

28.An inductor device comprising:

a conductive loop; and

a core structure located inside said loop wherein said core structure comprises conductive loaded, resin-based material comprising conductive materials in a base resin host.

29.The device according to Claim 28 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

30.The device according to Claim 28 wherein said conductive materials comprise metal powder.

31.The device according to Claim 30 wherein said metal powder is a non-conductive material with a metal plating.

32. The device according to Claim 28 wherein said conductive materials comprise non-metal powder.

33.The device according to Claim 28 wherein said conductive materials comprise a combination of metal powder and non-metal powder.

34.The device according to Claim 28 wherein said conductive materials comprise micron conductive fiber.

35.The device according to Claim 28 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

36.The device according to Claim 28 further comprising an electrically insulating layer surrounding said core structure.

37. The device according to Claim 36 wherein said electrically insulating layer is a resin-based material.

38.The device according to Claim 28 wherein said loop comprises conductive loaded resin-based material.

39.The device according to Claim 28 wherein said loop comprises multiple turns.

40.The device according to Claim 28 further comprising a second loop wherein said core structure is inside of said second loop and wherein said core structure inductively couples said loops.

41.The device according to Claim 40 wherein said loop and said second loop each comprises multiple turns of said conductive loaded resin-based material.

42.The device according to Claim 28 wherein said loop is used to generate a magnetic field.

43.The device according to Claim 28 wherein said loop is used to detect a magnetic field.

44.A method to form an inductor device, said method comprising:

providing a conductive loaded, resin-based material comprising conductive materials in a resin-based host; and

molding said conductive loaded, resin-based material into an inductor device.

45.The method according to Claim 44 wherein said molded conductive loaded resin-based device comprises a core.

46.The method according to Claim 44 wherein the ratio, by weight, of said conductive materials to said resin host is between about 0.20 and about 0.40.

47.The method according to Claim 44 wherein the conductive materials comprise a conductive powder.

48.The method according to Claim 44 wherein said conductive materials comprise a micron conductive fiber.

49.The method according to Claim 44 wherein said conductive materials comprise a combination of conductive powder and conductive fiber.

50.The method according to Claim 44 wherein said molding comprises:

injecting said conductive loaded, resin-based material into a mold;

curing said conductive loaded, resin-based material; and

removing said inductor device from said mold.

51.The method according to Claim 50 further comprising forming an electrically insulating layer over said inductor device.

52. The method according to Claim 51 wherein said step of forming an electrically insulating layer comprises over-molding.

53. The method according to Claim 51 wherein said step of forming an electrically insulating layer comprises dipping, spraying, or coating.

54.The method according to Claim 44 wherein said molding comprises:

loading said conductive loaded, resin-based material into a chamber;

extruding said conductive loaded, resin-based material out of said chamber through a shaping outlet; and

curing said conductive loaded, resin-based material to form said inductor device.

55.The method according to Claim 54 further comprising stamping or milling said molded conductive loaded, resin-based material.

56.The method according to Claim 54 further comprising forming an electrically insulating layer over said inductor device.

57. The method according to Claim 56 wherein said step of forming an electrically insulating layer comprises extrusion.

58. The method according to Claim 56 wherein said step of forming an electrically insulating layer comprises dipping, spraying, or coating.